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START

N Springs Cleanup Proposals


 Tri-Party Agreement

The Washington State Department of Ecology, the U.S. Environmental Protection Agency, and the U.S. Department of Energy want your comments on the N Springs Expedited Response Action Proposal. The public comment period begins February 7 and runs through March 9, 1994. Ecology is the lead regulatory agency. All comments received during the comment period will be considered by the agencies before a final decision is made. Please submit written comments to:

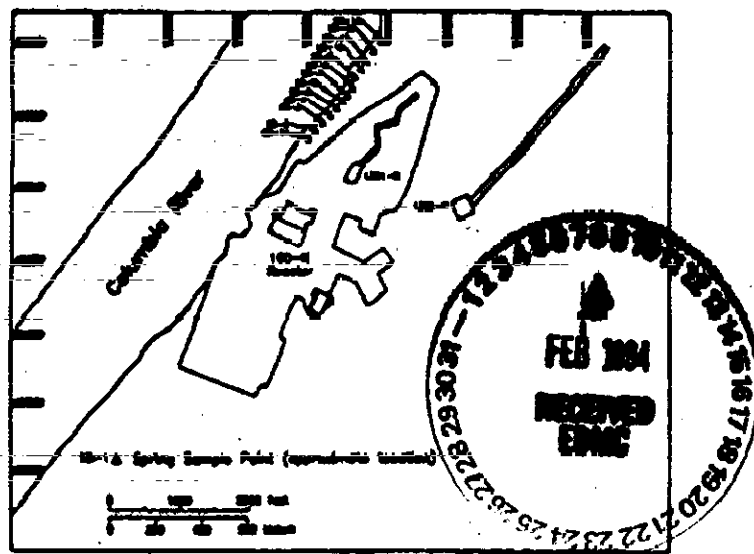
Mr. Phillip R. Staats
Washington State Department of Ecology
7601 W. Clearwater Avenue, Suite 102
Kennewick, WA 99336

An Expedited Response cleanup is undertaken when known and available technologies can provide a rapid solution to a clearly defined problem. The N Springs Expedited Response Action Proposal has been prepared by the Department of Energy, the Hanford Site operator, and includes an assessment of cleanup alternatives which may meet the cleanup goal of substantially reducing the flow of strontium 90 to the groundwater which feeds the N Springs.

Background

The N Springs are a series of groundwater seeps located along the southern bank of the Columbia River adjacent to the N Reactor approximately 30 miles northwest of Richland, Washington. Historical flow from the N Springs to the river was substantially altered in 1963 when N Reactor operations began. Cooling water drawn from the Columbia River passed through the reactor and was discharged into one of two disposal trenches known as the 1301 and 1325 Crips. The 1301 Crib received radioactive contaminated water from 1963 through 1985 at average flow rates of 2,100 gallons-per-minute.

The 1325 Crib was built as a replacement for the 1301 Crib and first received contaminated water in 1983. Between 1983 and 1985, both cribs received waste water from the reactor. In 1985, all water discharge was directed to the 1325 Crib at an average flow of 450 gallons-per-minute.



This flow rate continued until 1987, when the reactor was placed in standby condition. Discharge then substantially decreased until all flow ceased in 1991. The total volume of water sent to the cribs was 23 billion gallons with a radionuclide inventory of 2,451 curies of strontium 90.

The influx of contaminated water overwhelmed the surrounding soils' ability to absorb the moisture and adsorb the radionuclide contamination. As a result, the excess groundwater flowed to the N Springs and the river, bringing with it strontium 90 contamination.

Current status

Flow to the N Springs has decreased in recent years because water no longer is discharged to the cribs. Contamination levels are monitored through an on-going sample collection program.

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Cleanup alternatives

Four alternatives are being considered:

● **No Action:** No attempt to reduce the flow of any contaminant would be made. No cost.

● **Pump and Treat:** This option is discussed in a variety of scenarios using two treatment alternatives, ion exchange and reverse osmosis, with effluent discharged to either the Columbia River, N Area or the 200 Area. Radionuclides can be removed from water using ion exchange, a process in which ionic contaminants, such as strontium 90, are exchanged for similar mobile ions in an exchange medium. Reverse osmosis purifies water by forcing it through a membrane filter, leaving contaminants in a concentrated waste stream. These alternatives would provide a proven, flexible, easy-to-implement technology and would create physical control of contaminants not specifically addressed by the ERA. Actual contaminant level reduction would be achieved. Cost range, approximately \$6 million to \$23 million.

● **Slurry Wall:** This option would create a permanent, in-ground clay wall aimed at substantially reducing groundwater flow to the river. No reduction in groundwater contaminant level is achieved. Cost, approximately \$10 million.

● **Hydraulic Control:** The flow of contaminants toward the river might be influenced by reducing pressure on the uphill side of the pool of groundwater away from the river. Un-contaminated

ground water would be pumped out, lowering the pressure gradient which pushes contamination toward the river. No contaminant reduction is achieved. Cost, approximately \$2.7 million.

How can you get involved?

Ecology and the Environmental Protection Agency want to know which alternative you prefer. Public meetings are scheduled for 7 p.m. Monday, February 28, in the Hood River Valley High School cafeteria, Hood River, Ore., and Wednesday, March 2, in Richland at the Tower Inn, 1515 George Washington Way. Only after public comments have been reviewed will Ecology and EPA select a cleanup alternative. Individuals who comment on the proposed plans will receive responses explaining how and why their comments were, or were not, used.

You may review the *N Springs Expedited Response Action Proposal* at the following Hanford Tri-Party Agreement Public Information Repositories. For more information, contact Phillip Staats (509) 736-3029, or Hanford Cleanup toll free 1-800-321-2008.

If you have special accommodation needs, please contact Michelle Davis at (206) 407-7126 (Voice) or (206) 407-7155 (TDD).

Hanford Public Information Repositories

SEATTLE

University of Washington
Suzzallo Library
Government Publication Room
Attn: Eleanor Chase (206) 543-4664

SPOKANE

Gonzaga University
Foley Center
E. 502 Boone
Attn: Lewis Miller (509) 328-4220 ext. 3125

RICHLAND

USDOE Public Reading Room
Washington State University/Tri-Cities
Room 130
100 Sprout Road
Attn: Terri Traub (509) 376-8583

PORTLAND

Portland State University
Branford Price Millar Library
Science and Engineering Floor
S. W. Harrison and Park
Attn: Michael Brown (503) 725-3690